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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/799,877

03/15/2004

Si-Bum Kim

123037-05005048

8351

43569

7590

10/05/2006

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EXAMINER

TRINH, MICHAEL MANH

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/799,877

Applicant(s)

KIM, SI-BUM

Examiner

Michael Trinh

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 August 2006 and 07 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-18 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 5-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

\*\*\* This office action is in response to Applicant's Amendment filed August 2, 2006 and RCE filed September 07, 2006. Claims 1-3,5-18 are pending.

\*\*\* The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 102***

1. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Sung et al (6,346,454).

Sung et al. teach a method for forming a semiconductor device comprising at least the steps of: a) forming an insulation layer 42/40/38 in a capacitor region and a metal interconnection region on a substrate 30 (Figs 1; col 3, line 65 through col 4); b) forming a first metal interconnection 54 in the metal interconnection region of the insulation layer by performing a dual damascene process (Figs 2-5; col 5, line 19 through col 6); and c) forming a capacitor in the capacitor region of the insulation layer such that the capacitor is in a same layer as the metal interconnection in the insulation layer (Figs 1-8); and forming a barrier layer 48 and a blanket second metal interconnection 50 on the capacitor and the first metal interconnection in sequence by blanket deposition of the second metal interconnection 50 (Figs 6-7; col 6, lines 29-67, 51-58).

### ***Allowable Subject Matter***

2. Claims 8-15,16-18 are allowed for reason as already of record.
3. As already of record, Claims 2,3,5-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Response to Amendment**

4. As of record, acknowledgment is made of Applicant's submission of a certified English translation of the foreign priority document No. 2001-74336 on March 17, 2006, and thus is entitled to the prior date of November 27, 2001. Accordingly, rejection(s) by using the Thomas

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et al. (2003/0234416) reference is no longer applicable, since the Thomas et al. reference's filing date of June 25, 2002 is after Applicant's entitled priority date of November 27, 2001.

5. Applicant's amendments and remarks submitted August 02, 2006 with respect to pending claim have been considered but are moot in view of the new ground(s) of rejection.

Sung et al (6,346,454) clearly teaches the step of forming a barrier layer 48 and a blanket second metal interconnection 50 on the capacitor and the first metal interconnection in sequence by blanket deposition of the second metal interconnection 50 (Figs 6-7; col 6, lines 29-67, lines 51-58).

\*\*\*\*\*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael M. Trinh whose telephone number is (571) 272-1847. The examiner can normally be reached on M-F: 9:00 Am to 5:30 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on (571) 272-2429. The central fax phone number is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Oacs-18



Michael Trinh  
Primary Examiner